

## **CLOSURE PLAN AND FINANCIAL REQUIREMENTS**

This Closure Plan describes the steps that will be taken to close the hazardous waste management units (HWMUs) at the ATK Launch Systems Inc. – Promontory (ATK) facility. Closure Cost estimates are maintained in the Operating Record once approved by the Director. HWMUs included in this document are: M-186; M-705S; E-501; M-136; M-225; T-29B; M-629 and S-633.

The Closure Plan was developed to comply with R315-8-7 and R315-8-9.9 of the Utah Administrative Code (UAC). UAC R315-8-7 incorporates by reference the requirements of 40 CFR 264 Subpart G. The closure cost estimates were made in accordance with UAC R315-8-8, which incorporates by reference the requirements of 40 CFR 264 Subpart H.

All HWMUs in current operation are being managed in a manner that facilitates clean closure. Historical sites, such as the LTTAs do require post closure care, and are covered in our Post Closure Permit.

### **1.0 Closure Plans [40 CFR 270.14(b)(13), 270.23(a)(2), and 264.112(a)(1) & (2) and UAC R315-3, R315-8]**

This Closure Plan identifies the general steps needed to close storage and treatment facilities, as identified above, at the end of their operating life. Copies of this plan will be maintained at the Promontory Facility. The closure plans will be followed as written, unless modification to the original plans have been submitted and approved by the Utah Department of Environmental Quality, Division of Solid and Hazardous Waste (DSHW). Upon update/revision approval, revised pages or complete documents will be sent to all plan addressees.

### **1.1 Closure Performance Standards [40 CFR 264.111 and UAC R315-8-7]**

Closure standards specified under RCRA are designed to be protective of human health and the environment. These goals will be achieved by one of the following closure methods:

- Clean closure – this method refers to residential risk based levels. Cleanup to residential risk based levels, as outlined in UAC R315-101, will be considered clean closure. Clean closure includes removal of all contaminants, or removal to the risk based level.
- Site Management – closure where waste remains in place and specific post closure care is required.

For the purposes of estimating closure costs, it is assumed that all of the HWMUs will be “clean closed”. Clean closure can be achieved by cleaning the units to background conditions or by meeting the clean closure equivalency as defined in UAC R315-101-6(c)(1). All closures will assess real and reasonably likely impacts to human and ecological exposures.

Preliminary remediation goals can be established prior to implementing any of the closure plans. Screening levels published by USEPA or site-specific risk based levels based on UAC R315-101-5.2 may be used.

If contamination from hazardous waste or constituents is discovered at a HWMU above risk based goals, further investigation will be performed to determine the extent of the contamination. Based on the results of this investigation, a Corrective Measure Study (CMS) may be prepared for review and approval by the DEQ, prior to implementation.

If investigation suggests that clean closure is not a practicable approach, a Site Management Plan will be prepared. Upon approval, the unit will be closed by implementing appropriate site management or post closure requirements. If this approach is necessary, the Post Closure Permit may be modified to provide post closure care for the sites that are not clean closed.

## **1.2 Partial Closure and Final Closure Activities [40 CFR 264.112(b)(1) through (b)(7) and UAC R-315-8-7]**

This plan is designed to accommodate both partial and final closure. The plan includes separate steps to close storage, consolidation & disassembly areas, and open burning/open detonation areas. A detailed plan for closing each HWMU will be submitted in accordance with Permit Condition III.J.2.

Soil monitoring has been conducted at the M-136 and M-225 burn grounds since 1991. Semi-annual groundwater monitoring is also conducted, in accordance with ATK's Post-Closure Permit.

## **1.3 Maximum Waste Inventory and Disposal Method [40 CFR 264.112(b)(3) and UAC R315-8-7]**

The maximum inventory of hazardous waste onsite at any one time during the life of the facilities is based on permit limitations for inert facilities, and Quantity/Distance(QD) limitations for live materials, based on Department of Defense Explosive Safety Standard 4145.26M or a lesser designated amount. If storage capacities change, the Permit will be modified. These quantity limitations are listed below:

M-186 (inert) -----	400 ea. 55 gallon drum equivalent
M-705S (inert) -----	32 ea. 55 gallon drum equivalent
E-501 (inert) -----	160 ea. 55 gallon drum equivalent
M-136 (live) -----	125,000 lbs 1.3 / 20,000 lbs 1.1
M-225 (live) -----	55,000 lbs 1.3 / 1,500 lbs 1.1
T-29B (inert) -----	1 ea. 55 gallon drum (pure) equivalent
M-629 (live) -----	110,000 lbs 1.3 / 55,000 lbs 1.1
S-633 (live) -----	75,000 lbs 1.3/20,000 lbs 1.1

ATK treats reactive hazardous wastes on-site at the M-136 and M-225 open burning grounds. Wastewater is collected and treated on site and discharged through one of two UPDES permitted

treatment facilities. All other hazardous wastes are transported by commercial carrier to fully permitted disposal or recycling facilities.

#### **1.4 Schedule for Closure [40 CFR 264.112(b)(6) and UAC R315-8-7]**

Section 1.4.1 of this plan provides an estimated closure schedule for all activities associated with implementation of this Closure Plan. If sample results indicate the need for additional investigation or a CMS, the schedule will be modified to accommodate the changes. Final closure will be certified by an independent professional engineer licensed in Utah.

##### **1.4.1 Time Allowance for Closure [40 CFR 264.113(a) and (b) and UAC R315-8-7]**

Final closure is expected to be initiated within 30 days following shipment of the final volume of hazardous waste. If more time is required, a request will be submitted to the Director. All hazardous wastes will be removed or treated within 90 days of (1) plan approval, or (2) after receiving the final volume of hazardous waste, whichever is later. Final closure activities will be completed within 180 days of (1) plan approval, or (2) after receiving the final volume of hazardous waste, whichever is later.

##### **1.4.2 Extensions for Closure time [40 CFR 264.113(a) and (b) and UAC R315-8-7]**

If closure activities cannot be completed within the time designated in this Closure Plan, a permit modification and request for additional time will be submitted to the DSHW. The request will state the reason for needed additional time and the status of the closure underway. It will also address any added measures that must be followed to minimize any threats to human health or the environment during the extension period.

#### **1.5 Closure Procedures [40 CFR 264.112 and 264.114 and UAC R315-8-7]**

All permitted treatment and storage facilities have been designed and managed to minimize possible contamination. This includes chemical resistant concrete coatings, blind containment sumps, regular inspections, regular maintenance, and prompt cleanup of any spilled materials. These practices should greatly reduce the need for significant remediation efforts upon closure.

##### **1.5.1 Soil and Groundwater Sampling**

Groundwater sampling is not covered under this plan. A groundwater monitoring program is currently in place as discussed above. Soil sampling should not be required for any of the permitted facilities, except for the two burn ground areas (M-136 and M-225) and S-633.

Detailed sampling plans will be submitted in accordance with Permit Condition III.J.2. Samples will first be collected at locations most likely to have been affected by waste management practices – as approved by DSHW personnel. Twenty soil samples will be collected at M-136, eight soil samples will be collected at M-225 and eight soil samples will be collected at S-633. These samples will be sent to a State of Utah certified laboratory for analysis. Sample collection, preservation and handling methods will follow those outlined in the Waste Analysis Plan of this

permit, and will be in compliance with all applicable SW-846 methods. All samples will be processed and analyzed by a Utah Certified Laboratory in accordance with R444-14-3(2) UAC. Analytical and extraction methods to be used are shown below.

Analytical and Extraction Methods		
Parameter	Analytical procedure	Extraction Procedure
Volatiles	SW-846; 8260B	SW-846; 5030B(W), 5035S
Semi-Volatiles	SW-846; 8270C	SW-846; 3510C(W), 3550(S)
RCRA Metals	SW-846; 6010B	SW-846; 3005A(W), 7471A(S)
Mercury	SW-846; 7470A/7471A	SW-846; 7470A(W), 7471A(S)
Explosives	SW-846; 8330 Modified	SW-846; 8330 Modified
Perchlorate	EPA 314.0	EPA 314.0

#### **1.5.1.1 Sampling Equipment Decontamination Procedures**

All field sampling equipment will arrive on site pre-cleaned, and will be decontaminated following standard protocol and the waste analysis plan in this permit. A mobile decontamination station will be used to clean all sampling equipment that could come in contact with soil samples.

#### **1.5.1.2 Sampling Waste Management**

All waste generated from field sampling and decontamination operations will be managed in accordance with the current UAC R315 rules. Water used in the decontamination process will be containerized and sent offsite for treatment or disposal. Soils will be stored in UN containers pending lab results. Any soil determined to be hazardous waste will be managed appropriately.

All non-aqueous hazardous waste generated by the sampling operation will be transported by a third party contractor off site to a fully permitted TSDF for disposal. Any waste determined not to be hazardous under EPA regulations will be sent via third party to a non-hazardous landfill for disposal.

A field log will be maintained to track and identify all samples. This log will include sample numbers, dates, times, sample depth, samplers name, weather conditions, test methods and constituents for which to analyze.

#### **1.5.1.3 Health and Safety Procedures**

Soil and water sampling will be performed by trained and qualified personnel. A determination of appropriate personal protective equipment (PPE) to be used for this effort will be determined at the time of closure. PPE selection will be based on potential hazards as determined at the time of closure, and in consultation with Industrial Hygiene professionals.

Soil sampling should only be required at the burn grounds, because of well-maintained secondary containment and waste management practices during the entire life of all other

permitted facilities. Protective clothing appropriate for the task will be used during removal of waste and during decontamination of containment areas for the permitted storage and treatment units.

### **1.5.2 Determining Cleanup Goals**

For the purposes of estimating closure costs, it is assumed that all of the HWMUs will be clean closed. Clean closure can be achieved by cleaning the units to background conditions or by meeting the clean closure equivalency as defined in UAC R315-101-6(c)(1). All closures will assess real and reasonably anticipated potential impacts to human and ecological exposures. It is anticipated that the HWMUs will be clean closed and will not require post-closure care.

### **1.5.3 Site Cleanup**

#### **1.5.3.1 Inventory Removal [40 CFR 264.112(b)(3) and UAC R315-8-7]**

The maximum inventory of hazardous waste on hand at any given permitted facility is based on the maximum allowed under this permit, or a quantity - distance limit for explosives, imposed by the Department of Defense and ATK. These limitations are specified in Section 1.3 of this Closure Plan.

Transportation and disposal costs of all hazardous waste during closure of a facility will be based on hiring a third party. The transportation contractor will be licensed and insured, and the disposal facility will be a permitted facility. Reactive hazardous wastes may be open burned on site. Cost calculations for treatment, disposal and equipment decontamination will be based on maintaining an ATK staff sufficient to complete these efforts.

#### **1.5.3.2 Disposal or Decontamination of Equipment and Structures [40 CFR 264.112(b)(4), 264.112(e), and 264.114 and UAC R315-8-7]**

Decontamination of equipment and structures at the Promontory facilities will follow one of two plans. These plans cover the open burning units, and all other facilities.

The open burning facilities use burn trays, pipes, concrete vaults or rocket cases to contain the waste to be treated. Most of the material burned is hazardous by characteristic only. Any waste that may be contaminated with, or contains solvents or hazardous heavy metals is designated as a derived waste, and the ash collected for offsite disposal. Therefore, except for the derived trays, all ash in trays, vaults, cases, and on the ground around these units will be collected and disposed on-site. The burn trays will then be high pressure water washed and the rinsate collected for disposal. After the final rinse, a composite sample from the trays will be collected and analyzed at a Utah certified lab to verify proper tray decontamination. Each sample will include rinsate from 5 trays. Samples will be extracted and analyzed as described in 1.5.1.

All facilities except for M-136, M-225, M-629 and S-633 are designed with secondary containment. The secondary containment includes a concrete pad with curbing and blind sump to simplify cleaning. The containment pads and sumps are coated with a chemical resistant

epoxy to prevent liquid migration through the concrete. Secondary containments are inspected daily, when in use, and maintained as needed. After removal of all containerized waste, the liquid chemical containment pads of facilities E-501, M-186, M-705S, and T-29B will be high pressure water washed, and the rinsate will be collected for disposal. After the final wash, rinse water samples will be collected from each sump and characterized for disposal. Samples will be sent to a State certified laboratory for analysis.

#### **1.5.3.3 Closure Containers [40 CFR 264.178, 264.112(b)(3), and 270.14(b)(13) and UAC R315-8-9.9, R315-807, and R315-3-5(b)(13)]**

Non-reactive hazardous waste requiring off-site disposal will be placed in a UN or a bulk USDOT authorized containers for offsite shipment to permitted disposal facilities. Empty containers will be cleaned in compliance with 49 CFR, and sent for disposal.

### **2.0 Closure Certification [40 CFR 264.115 and UAC R315-8-7]**

Within 60 days of completion of closure of each facility, ATK will submit a certification to the DSHW by registered mail, that the hazardous waste management facility was closed in compliance with this Closure Plan. This certification will be signed by ATK and an independent registered professional engineer licensed in Utah. Documentation supporting the engineer's registration will be provided upon request.

### **3.0 Closure Cost Estimate [40 CFR 264.142]**

Closure cost estimates are maintained in the operating record once approved by the Director. Closure cost estimates are based on using a third party except for the thermal treatment and disposal of reactive waste which will be conducted on site.

### **4.0 Financial Assurance Mechanism for Closure [40 CFR 264.143 and R315-309]**

ATK will maintain current financial assurance meeting the requirements outlined in the above referenced Federal and State regulations. ATK will provide documentation to DSHW supporting compliance with financial mechanism requirements.

### **5.0 Post Closure Plan**

If it is determined that a HWMU can't be clean closed, contaminants may be left in place, and a post closure or site management plan will be developed. Any proposal for post closure care or site management will be developed in accordance with UAC R315-8-7, UAC R315-8-8 and 40 CFR 264 Subparts G and H, and will be submitted to the Director for approval. If this approach is necessary, the Post Closure Plan may be modified to provide post closure care for the sites that are not clean closed.